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POLIOMYELITIS SURVEILLANCE REPORT

NO. 118

THIRD YEAR

JULY 19, 1957

U.S. Department of Health, Education and Welfare
Public Health Service Bureau of State Services
Communicable Disease Center
Poliomyelitis Surveillance Unit
50 Seventh Street, N.E.
Atlanta, Georgia

SPECIAL NOTE

The information in this report represents a factual summary of preliminary data reported to the Poliomyelitis Surveillance Unit from State Health Departments, Epidemic Intelligence Service Officers, participating laboratories and other pertinent sources. It is understood that the contents of these reports will not be released to the press, except by the Office of the Surgeon General, Public Health Service, U. S. Department of Health, Education and Welfare. State Health Officers, of course, are free to release any information they may wish concerning data from their state.

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Summary

1. The slight rise in polio incidence from 154 to 186 cases is made up almost wholly of nonparalytic cases.
2. The Johnson City, Tennessee outbreak of aseptic meningitis continues. A cytopathic agent, not poliovirus, has been isolated in 27 of 34 stool specimens.
3. An analysis of 1956 cases in Nebraska reveals marked relative shift of age distribution to adults. Total incidence, however, was low.
4. Reported triply-vaccinated paralytic cases with onsets in 1957 now total 19, with one fatality.

I. Current Poliomyelitis Morbidity Trends

The incidence of poliomyelitis in the United States remains the lowest in ten years. For the week ending July 12, there were 186 cases reported to the National Office of Vital Statistics compared with 154 cases reported for the preceding week. This increase of 32 cases, which in itself is slight for this particular season, consists almost wholly of nonparalytic cases. These figures are presented in Table 1, in greater detail than has been shown in previous PSU Reports. The national incidence of reported paralytic cases has remained in the range of 42 to 56 cases during the past four weeks.

The national incidence by weeks for 1952 through 1957 is shown in Figure 1, along with the data for the low incidence year of 1947. The curve for this year continues above that for 1947.

II. Reports from States

a. Tennessee: Dr. Cecil B. Tucker, Director, Division of Preventable Diseases, Tennessee State Health Department, reports that as of July 16, a total of 55 cases "nonparalytic polio" or aseptic meningitis cases have been reported from Washington County, (Johnson City) Tennessee. (See PSU Report #117, July 12, 1957). Mr. Barrick of the Tennessee State Health Department Laboratory reports that a non-polio agent cytopathic for Hela cells has been isolated from 27 of the first 34 stool specimens examined. Dr. Malcolm Page, Epidemic Intelligence Service Officer, and Dr. Lauri David Thrupp will meet Dr. Tucker in Johnson City on July 18 to assist in further investigation of the outbreak.

b. North Carolina: Dr. Jacob Koomen, Assistant Director, Division of Epidemiology, North Carolina State Health Department, has reported that over the past six weeks a total of 16 cases of poliomyelitis, all

nonparalytic, have been reported from the City of Durham. Of these 16 cases, 8 were under 10 years of age, 3 were between 10 and 19 years, 4 were between 20 and 29, and 4 were 30 years of age or over. Fourteen of the cases were white and the two remaining were Negroes. Of the 16 cases, a total of 9 had received one or more doses of polio vaccine prior to onset of the current illness. Dr. Koomen reports that only 6 of these 16 cases are included in the cases reported to NOVS (as listed in Table 1); no further clinical or epidemiological details are yet available.

Dr. Koomen further reports that North Carolina has experienced a cumulative total of 46 polio cases for 1957; of these 46 cases, only 10 are reported to be paralytic, with 34 cases reported as nonparalytic and the remaining 2 unspecified.

c. Louisiana: Dr. J.D. Martin, Chief, Section of Epidemiology, Louisiana State Health Department has noted that a total of 9 nonparalytic polio cases have been reported from Shreveport (Caddo County) in vaccinated individuals. Of these 9 cases, 3 had received one injection, 4 had received two injections, and 2 had received all three injections of polio vaccine. Only 1 paralytic case has been reported from Caddo County in 1957 in a vaccinated individual, that case having received one dose of vaccine.

d. Florida: Dr. James Bond, Epidemiologist, Florida State Board of Health, reports that the 14 cases reported to NOVS from the State of Florida for the week ending July 13th largely represent delayed reporting. No actual increase in polio incidence has been noted in Florida.

III. An Analysis of 1956 Poliomyelitis in Nebraska

Dr. Carl J. Patthoff* and Dr. S. Alan Rouse** have prepared a report "Poliomyelitis in Nebraska During 1956", published in the Nebraska State Medical Journal, June, 1957. In addition to reporting an unusually low year, the review notes several interesting features of the Nebraska incidence.

1. None of the eight deaths reported as caused by poliomyelitis were in children; all were adults, ranging from 19 to 47 years of age.
2. Of the eight reported deaths, seven occurred in unvaccinated persons. The eighth death was an adult living in a high incidence area, and the illness had onset three days following a single inoculation.
3. A total of "...59 percent of all reported cases and 64.5 percent of reported paralytic cases were in those older than 15 years. In no national records of previous years have these older people contributed such a large percentage of the reported cases."

* Chairman, Department of Preventive Medicine, University of Nebraska College of Medicine.

** Director, Division of Poliomyelitis, Nebraska State Department of Health.

4. Of those cases with laboratory study, 40 percent of the non-vaccinated cases were paralytic compared to 29.4 percent of the vaccinated. Reports from physicians suggested greater severity of paralysis and more frequent isolation of poliovirus from non-vaccinated cases.

IV. Routine Poliomyelitis Surveillance

During the week ending July 18, the Polio Surveillance Unit received reports of one paralytic poliomyelitis case and one nonparalytic case occurring within 30 days of a polio vaccine inoculation. California reported a triply-vaccinated case with onset of left arm paralysis two days following right arm inoculation with Parke-Davis Vaccine (Lot #029888, 200,000 cc's distributed in May). No other cases have been reported to PSU in association with this lot.

V. Triply-Vaccinated Cases

A total of 77 triply-vaccinated cases with onset of illness in 1957 has been reported to PSU through July 17. Of these, 19 were reported as paralytic cases. Seven of these 19 paralytic cases were listed in previous PSU Reports (including the fatality in New Mexico in January, 3V-34). The remaining 12 paralytic cases were reported to PSU during the period June 19 through July 17, 1957. Preliminary data concerning these 12 newly-reported cases are listed in Table 3. Of these 12 cases, four occurred in Texas, two each in Jefferson and Dallas Counties; the remaining eight cases occurred in six different states. Clinical details and follow-up data on these cases are not yet available.

The 58 nonparalytic triply-vaccinated cases with onset in 1957, were reported from 17 different states. Of these 58 cases, 9 were reported from Mississippi, 8 from Texas, 7 from Tennessee and 6 from Louisiana. This total does not include several triply-vaccinated aseptic meningitis cases from Johnson City, Tennessee.

VI. Vaccine Distribution

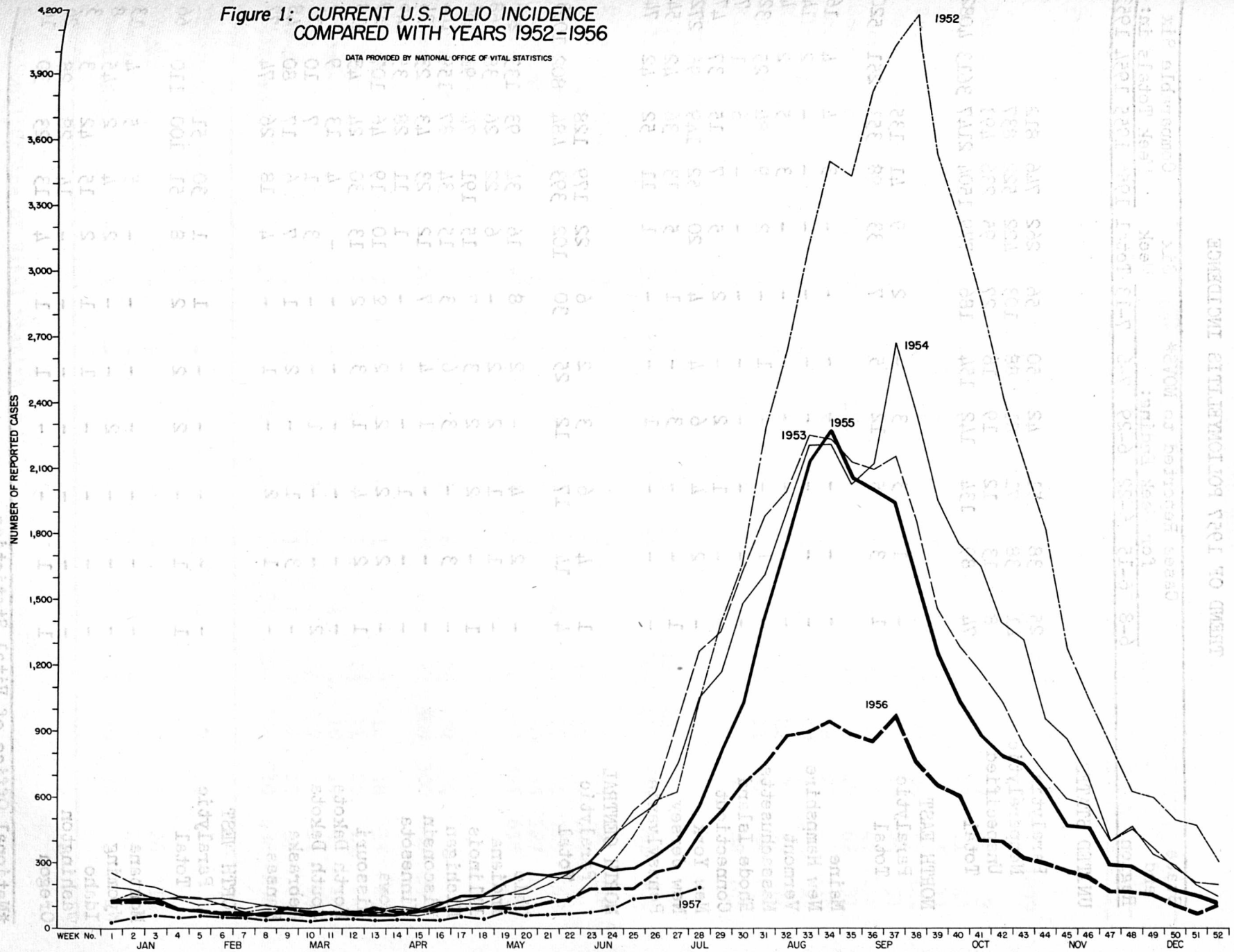
Table 2 presents a summary of current and cumulative shipments of vaccine (in 1000's of cc's of net bottled vaccine). Excluding export, 2.3 million cc's were shipped July 1-5. Vaccine shipments for January through June, 1957, totaled over 60 million cc's.

The Vaccine Inventory on July 5, 1957, totaled 7.5 million cc's, including vaccine not shipped by manufacturers and vaccine on hand in State and Local Health Departments, Physicians' Offices and in Commercial Channels.

(This Report was prepared by Drs. Alexander D. Langmuir, Lauri David Thrupp, and Miss Helen Forester, with assistance from the Statistics Section, CDC.)

Figure 1: CURRENT U.S. POLIO INCIDENCE
COMPARED WITH YEARS 1952-1956

DATA PROVIDED BY NATIONAL OFFICE OF VITAL STATISTICS



CHIEF OF POLIO EPIDEMIOLOGY DIVISION

Table 1

TREND OF 1957 POLIOMYELITIS INCIDENCE

State and Region	Cases Reported to NOVS* for Week Ending:						Six Week	Comparable Six Week Totals in:			
	6-8	6-15	6-22	6-29	7-6	7-13	Total	1956	1955	1954	1953
UNITED STATES											
Paralytic	25	38	51	42	50	56	262	746	812		
Nonparalytic	41	38	71	81	88	103	422	522	837		
Unspecified	8	13	12	19	16	27	95	236	493		
Total	74	89	134	142	154	186	779	1504	2147	3613	4082
NORTH EAST											
Paralytic	-	1	3	3	-	2	9	41	135		
Total	1	3	5	12	5	7	33	98	351	251	520
Maine	-	-	-	-	-	-	-	3	4	4	16
New Hampshire	-	-	-	-	-	-	-	-	-	2	14
Vermont	-	-	-	-	-	-	-	3	5	2	4
Massachusetts	-	1	-	-	1	-	2	9	84	25	32
Rhode Island	-	-	-	-	-	-	-	-	6	1	7
Connecticut	-	-	1	2	-	2	5	7	15	37	47
New York	-	2	4	6	4	4	20	52	149	96	272
New Jersey	1	-	-	3	-	1	5	13	36	42	54
Pennsylvania	-	-	-	1	-	-	1	11	52	42	74
NORTH CENTRAL											
Paralytic	1	4	6	3	2	6	22	179	128		
Total	4	14	17	12	25	30	102	393	484	802	1093
Ohio	-	2	4	-	2	8	16	34	93	133	206
Indiana	-	1	1	2	2	-	6	22	26	38	68
Illinois	1	-	2	2	3	7	15	191	74	91	186
Michigan	-	3	-	3	6	3	15	34	87	159	144
Wisconsin	-	-	-	1	4	7	12	23	43	23	34
Minnesota	-	-	1	-	-	-	1	11	28	35	146
Iowa	-	2	2	2	2	2	10	19	46	107	49
Missouri	1	2	4	1	3	2	13	30	24	43	118
North Dakota	-	-	-	-	-	-	-	4	13	9	4
South Dakota	2	-	-	1	-	-	3	1	7	10	13
Nebraska	-	3	1	-	2	1	7	6	17	80	48
Kansas	-	1	2	-	1	-	4	18	26	74	77
NORTH WEST											
Paralytic	-	-	-	-	-	1	1	30	51		
Total	1	1	-	2	2	2	8	51	100	110	66
Montana	-	-	-	-	-	-	-	5	5	4	13
Wyoming	-	-	-	2	-	-	2	4	2	45	8
Idaho	-	-	-	-	1	1	2	15	42	3	3
Washington	-	-	-	-	-	-	-	14	28	28	26
Oregon	1	1	-	-	1	1	4	13	23	30	16

*National Office of Vital Statistics

(CONTINUED ON NEXT PAGE)

Table 1 (Continued)

State and Region	Cases Reported to NOVS* for Week Ending:						Six Week Total	Comparable Six Week Totals in:			
	6-8	6-15	6-22	6-29	7-6	7-13		1956	1955	1954	1953
SOUTH EAST											
Paralytic	6	6	13	10	12	15	62	68	135		
Total	16	17	34	36	37	54	194	200	375	739	1099
Delaware	-	-	-	-	1	-	1	3	7	4	3
Maryland	-	-	4	-	-	-	4	10	23	11	47
D. C.	-	-	-	-	-	-	-	1	6	5	11
Virginia	1	-	3	-	2	7	13	27	36	39	121
West Virginia	1	1	-	1	-	1	4	7	10	20	51
North Carolina	2	2	4	1	6	7	22	22	47	49	258
South Carolina	3	5	10	7	5	9	39	16	47	62	31
Georgia	-	3	2	3	3	4	15	18	27	120	116
Florida	6	2	1	5	-	14	28	58	75	246	85
Kentucky	-	3	1	-	-	5	9	22	29	57	72
Tennessee	1	1	9	16	19	7	53	11	32	58	141
Alabama	2	-	-	3	1	-	6	5	36	68	163
SOUTH CENTRAL											
Paralytic	15	21	23	25	30	20	134	236	229		
Total	32	39	55	64	67	52	309	453	537	1091	905
Mississippi	3	1	12	3	2	4	25	32	45	126	118
Arkansas	-	-	6	4	3	3	16	13	32	65	75
Louisiana	5	6	4	12	12	2	41	110	64	115	142
Oklahoma	4	2	5	6	5	5	27	40	35	127	140
Texas	20	30	28	39	45	38	200	258	361	658	430
SOUTH WEST											
Paralytic	3	6	6	1	6	12	34	192	134		
Total	20	15	23	16	18	41	133	309	300	620	399
Colorado	2	-	-	-	1	-	3	12	18	33	25
New Mexico	2	1	4	-	1	3	11	11	26	16	24
Arizona	1	-	-	1	-	2	4	18	12	47	28
Utah	-	1	-	1	2	-	4	7	7	11	19
Nevada	-	-	-	-	1	1	2	2	27	15	9
California	15	13	19	14	13	35	109	259	210	498	294
TERRITORIES											
Alaska	-	-	-	-	-	-	-	2	1	26	14
Hawaii	-	-	-	-	-	-	-	1	13	45	6
Puerto Rico	1	-	-	-	-	-	1	10	34	-	4

* National Office of Vital Statistics.

Table 2

Poliomyelitis Vaccine Shipment Summary

(Reports from Polio Vaccine Activity, BSS, USPHS, through 7-12-57)

Vaccine Shipments (in 1000's of cc's)

<u>Period</u>	<u>NFIP*** Sponsored Clinics</u>	<u>Public Agencies</u>	<u>Commercial Channels</u>	<u>Export ****</u>	<u>Total*</u>
1955	13,541	7,893	6,233**	-	27,667
1956	194	45,588	24,784	6,477	77,043
1957					
January - March	8	19,306	13,483	4,111	37,538
April	-	8,639	5,161	1,360	15,161
May	73	5,365	3,767	536	9,740
June	70	2,734	1,349	378	4,531
July 1 - 5	-	1,250	1,058	2	2,309
Cumulative Totals	13,886	91,405	55,834	12,865	173,990

Vaccine Inventory (in 1000's of cc's)

Week Ending 7/5/57

Vaccine Cleared for distribution by the National Institutes of Health but not shipped	2,734
Vaccine in State and Local Health Departments	2,970
Vaccine in Commercial Channels and Physicians Offices	1,797

* Totals do not add because figures are rounded to nearest 1000 cc's.

** Includes 562,740 cc's shipped through commercial channels prior to inauguration of the Interstate Distribution Program in August, 1955.

*** Vaccine purchased by the National Foundation for Infantile Paralysis and distributed for inoculation of first and second grade children in locally organized school clinics.

**** Regulated under Department of Commerce Export Policy.

Table 3

1957 Paralytic Poliomyelitis Following Three Inoculations of Vaccine

(Reports through June 30, 1957)

3 V Case No.	State	County	Ini- tials	Age	Sex	Date 1st Symp.	Site of Para.	Dates of Vacc. Inoc.	Mfr.	Lot No.
49	Ark.	Pulaski (R)	BC	10	M	4-15-57	?	?	?	?
Comment: Preliminary Report.								?	?	?
50	Ark.	White	SS	7	F	6-8-57	?	?	?	?
Comment: Preliminary Report.								?	?	?
51	Conn.	East Haven	JLaB	6	F	4-8-57	RA	7-18-56 8-15-56 4-1-57	? ? L	? ? 683454
Comment: Rt. shoulder weakness noted in convalescent phase following a mild acute illness. Thought to have German measles concurrently. No. lumbar puncture done.										
52	Ind.	Hamilton	DJ	4	M	5-27-57	?	?	?	?
Comment: Preliminary Report.								?	?	?
53	Miss.	Wayne	CRL	6	M	3-15-57	R Leg	?	?	?
Comment: Preliminary Report.								3-27-57	L	679904

(Continued)

3 V Case No.	State	County	Ini- tials	Age	Sex
54	N. M.	Chaves	DL	8	M
Comment: Preliminary Report.					
55	Texas	Jefferson	DC	8	M
Comment: Preliminary Report.					
56	Texas	Jefferson	DM	2	M
Comment: Preliminary Report.					
57	Texas	Dallas	DH	2	M
Comment: Preliminary Report.					
58	Texas	Dallas	HS	2	M
Comment: Preliminary Report.					
47	N. C.	Guilford	EMP	6	M
48	N. C.	Pender	MAJ	5	F

Table 3 (Continued)

Date 1st Symp.	Site of Para.	Dates of Vacc. Inoc.	Mfr.	Lot. No.
4-19-57	RA	?	?	?
		?	?	?
		1-10-56	?	?
3-12-57	?	?	?	?
		?	?	?
		?	?	?
1-30-57	?	?	?	?
		?	?	?
		?	?	?
5-31-57	?	?	?	?
		?	?	?
		?	?	?
3-3-57	?	?	?	?
		?	?	?
		?	?	?
1-11-57	RL	3-19-56	L	663619
		4-20-56	L	663620
		12-19-56	PM	175A074
5-24-57	Trunk, LL	10-14-55	W	24201
		11-5-55	L	?
		6-5-56	L	?